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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/664,094	09/19/2000	Masayuki Mizuno	Q60884	5281

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Sughrue Mion Zinn MacPeak & Seas PLLC  
2100 Pennsylvania Avenue NW  
Washington, DC 20037-3213

EXAMINER

MONDT, JOHANNES P

ART UNIT PAPER NUMBER

2826

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/664,094

**Applicant(s)**

MIZUNO, MASAYUKI

**Examiner**

Johannes P. Mondt

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,9-11 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9,10,14 and 15 is/are allowed.
- 6) ☒ Claim(s) 1,2,5, 11 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Response*

Remarks in Response under 37 C.F.R. 1.111 filed 5/10/2005 form the basis of this office action. Comments on said Remarks are included below under "Response to Arguments".

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claim 1** is rejected under 35 U.S.C. 102(b) as being anticipated by Schloemann (4,521,753). Schloemann teaches (Figure 11, title, abstract) a signal line 114 (col. 9, l. 61-62); a ground plate 118 (col. 9, l. 61), and another signal line 124 (col. 11, l. 25-38) disposed on an opposite side of said ground plate as said signal line;

wherein at least one through hole (hole in a central section of said signal line 114, said central section having edges 114c' and 114c'' (Figure 11) (col. 9, l. 55 – col. 10, l. 2) is formed in said signal line, and an inner wall of said through hole is only directly electrically connected to said signal line (because said through hole is a spacing between said edges 114c' and 114c''), and

wherein an aperture size of said through hole is smaller than a width of said signal line (because said through hole is a through hole in said signal line that does not disconnect portions of said signal line).

3. **Claim 2** is rejected under 35 U.S.C. 102(b) as being anticipated by Schloemann (4,521,753). Schloemann teaches (Figure 11, title, abstract) a signal line 114 (col. 9, l. 61-62); a ground plate 118 (col. 9, l. 61), and another signal line 124 (col. 11, l. 25-38) disposed on an opposite side of said ground plate as said signal line;

wherein at least one through hole 118' (col. 10, l. 47-60) is formed in said ground plate, and an inner wall of said through hole is only directly electrically connected to said ground plate (because said through hole is a void), and

wherein an aperture size of said through hole is smaller than a width of said signal line (because 118' has a smaller bore than the width of the signal line 114 where said aperture is located, as witnessed by the nesting of said aperture well within the outer edges 114c' and 114c'' of said signal line 114).

4. **Claims 5 and 13** are rejected under 35 U.S.C. 102(b) as being anticipated by Schloemann (4,521,753). Schloemann teaches (Figure 11, title, abstract) a signal line 114 (col. 9, l. 61-62); a ground plate 118 (col. 9, l. 61), and another signal line 124 (col. 11, l. 25-38) disposed on an opposite side of said ground plate as said signal line;

wherein at least one through hole (hole in a central section of said signal line 114, said central section having edges 114c' and 114c'' (Figure 11) (col. 9, l. 55 – col. 10, l. 2) is formed in said signal line, and an inner wall of said through hole is only

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directly electrically connected to said signal line (because said through hole is a spacing between said edges 114c' and 114c''), and

wherein an aperture size of said through hole formed in said signal line is smaller than a width of said signal line (because said through hole is a through hole in said signal line that does not disconnect portions of said signal line); and

wherein at least one through hole 118' (col. 10, l. 47-60) is formed in said ground plate, and an inner wall of said through hole is only directly electrically connected to said ground plate (because said through hole is a void).

*On claim 13:* an aperture size of said through hole formed in said signal line (hole in said central section of said signal line with edges 114c' and 114c'' (Figure 11) (col. 9, l. 55-col. 10, l. 2) and an aperture size of said through hole 118' in said ground plate are smaller than a width of said signal line (because 118' has a smaller bore than the width of the signal line 114 where said aperture is located, as witnessed by the nesting of said aperture well within the outer edges 114c' and 114c'' of said signal line 114).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

7. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Schloemann (4,521,753) in view of Kabumoto et al (6,483,714 B1). Schloemann teaches (Figure 11, title, abstract) a signal line 114 (col. 9, l. 61-62); a ground plate 118 (col. 9, l. 61), and another signal line 124 (col. 11, l. 25-38) disposed on an opposite side of said ground plate as said signal line; wherein at least one through hole (hole in a central section of said signal line 114, said central section having edges 114c' and 114c'' (Figure 11) (col. 9, l. 55 – col. 10, l. 2) is formed in said signal line, and an inner wall of said through hole is only directly electrically connected to said signal line (because said through hole is a spacing between said edges 114c' and 114c''), while an aperture size of said through hole is smaller than a width of said signal line ((because 118' has a smaller bore than the width of the signal line 114 where said aperture is located, as witnessed by the nesting of said aperture well within the outer edges 114c' and 114c'' of said signal line 114). Schloemann does not necessarily teach the limitation of a plurality of through holes rather than one through hole in said ground plate, said plurality of through holes being formed along a longitudinal direction of a signal transmission line and arranged at equal spaces or in a same pattern, and wherein an aperture size of said each of said through holes in said plurality of through holes is smaller than a width of said signal line. However, it would have been obvious to include said limitation in view of Kabumoto et al, who teach a plurality of through holes A (col. 37, l. 65- col. 38, l. 9) formed along a longitudinal direction of a signal transmission line (see Figures 13) and arranged at equal spaces or in a same pattern (col. 38, l. 9-25) and wherein an aperture size of each of said plurality of through holes is smaller than a

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width of said signal lines (col. 38, l. 18-20), so as to preserve the function of the ground plane as a shield layer against EMI noise (col. 37, l. 40-53). *Motivation* to include the teaching by Kabumoto et al in the invention by Schloemann at least derives from the undesirability of any electromagnetic interference also in the tuned resonant circuit by Schloemann.

### ***Response to Arguments***

8. Applicant's arguments, see, filed 5/10/2005, with respect to the rejections of claims 1, 2, 5, 9, 10, 11, 13, 14 and 15 under 35 U.S.C. 103(a) have been fully considered and are persuasive:

Although in Lin et al as cited (6,225,568 B1) the range for the width of the aperture size is stated as being  $< 1/20$  of the wavelength of the radiation and hence includes a sub-range in which said aperture size is smaller than the necessarily finite width of the signal line (col. 6, l. 10 – col. 7, l. 20), no specific teaching of the ratio of the aperture size divided by the width of the signal line is available in Lin et al while only the maximum size aperture  $D_1$  (Figure 2) is illustrated (col. 7, l. 14). Further search has, however, revealed other prior art over which claims 1, 2, 5, 11 and 13 must be rejected, as detailed above.

The rejection of claim 11 may be overcome by submission of a certified translation of the foreign priority (see heading of rejection of claim 11 above).

***Allowable Subject Matter***

9. ***Claims 9, 10, 14 and 15*** are allowed. The following is a statement of reasons for the indication of allowable subject matter:

(a) strictly within the limitations of claim 9, a plurality of slit holes in a signal line with properties as claimed has not been found;

(b) strictly within the context of claim 10, a plurality of through holes in said signal line arranged at equal spaces and with widths smaller than a width of said signal line has not been found.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P. Mondt whose telephone number is 571-272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM  
July 14, 2005

Patent Examiner:

A handwritten signature in black ink, appearing to read 'J. Mondt', with a stylized flourish at the end.

Johannes Mondt (Art Unit: 2826).